CLAIMS

What is claimed is:

1. A bread maker having an oven compartment, an electrical components compartment, and kneading drums spaced apart from each other inside the oven compartment to knead bread ingredients contained in a mixing bag, each kneading drum comprising:

a drum body on which an end of the mixing bag is wound;

a first supporter detachably engaging a first end of the drum body having a non-cylindrical cross-section, and engaging a first sidewall of the oven compartment and being rotatably supported by the first sidewall of the oven compartment; and

a second supporter detachably engaging a second end of the drum body having a non-cylindrical cross-section, and engaging a second sidewall of the oven compartment and being rotatably supported by the second sidewall of the oven compartment.

2. The bread maker according to claim 1, further comprising a drum driving part in the electrical components compartment to rotate the kneading drums.

3. The bread maker according to claim 2, wherein the drum body comprises a plurality of holding projections to hold the end of the mixing bag, the holding projections being spaced apart from each other by a predetermined distance along a lengthwise direction of the drum body.

4. The bread maker according to claim 2, wherein the first supporter comprises:

a first engaging shaft, having a non-cylindrical cross-section, inserted into the first end of the drum body; and

a first supporting shaft rotatably supported by the first sidewall of the oven compartment.

5. The bread maker according to claim 4, wherein the first supporter further comprises a first insertion limiting part between the first engaging shaft and the first supporting shaft, the first insertion limiting part having a diameter greater than that of the first engaging shaft and the first supporting shaft.

6. The bread maker according to claim 5, wherein the second supporter comprises:

a second engaging shaft, having a non-cylindrical cross-section, inserted into the second end of the drum body;

a second supporting shaft rotatably supported by the second sidewall of the oven compartment; and

a power transmission shaft projecting from the second supporting shaft toward the electrical components compartment and connecting to the drum driving part.

7. The bread maker according to claim 6, wherein the second supporter further comprises a second insertion limiting part between the second engaging shaft and the second supporting shaft, the second insertion limiting part having a diameter greater than that of the second engaging shaft and the second supporting shaft.

8. The bread maker according to claim 7, wherein the first insertion limiting part limits the distance the first supporter can be inserted into the drum body, and the second insertion limiting part limits the distance the second supporter can be inserted into the drum body.

9. The bread maker according to claim 4 wherein the second supporter comprises:

a second engaging shaft, having a non-cylindrical cross-section, inserted into the second end of the drum body;

a second supporting shaft rotatably supported by the second sidewall of the oven compartment; and

a power transmission shaft projecting from the second supporting shaft toward the electrical components compartment and connecting to the drum driving part.

10. The bread maker according to claim 9, wherein the drum body comprises a first accommodator having a non-circular cross-section to accommodate the first engaging shaft of the first supporter, the first engaging shaft being pressed and inserted into the first accommodator to fit into the first accommodator, thereby preventing the first supporter from freewheeling or separating from the drum body during operation of the kneading drums.

11. The bread maker according to claim 10, wherein the drum body comprises a second accommodator having a non-circular cross-section to accommodate the second engaging shaft of the second supporter, the second engaging shaft being pressed and inserted into the second accommodator to fit into the second accommodator, thereby preventing the second supporter from freewheeling or separating from the drum body during operation of the kneading drums.

12. The bread maker according to claim 9 wherein the second supporter further comprises a second insertion limiting part between the second engaging shaft and the second supporting shaft, the second insertion limiting part having a diameter greater than that of the second engaging shaft and the second supporting shaft.

13. The bread maker according to claim 9, wherein the first engaging shaft has a polygonal cross-section, and the second engaging shaft has a polygonal cross-section.

14. The bread maker according to claim 9, further comprising a bearing in the first sidewall of the oven compartment, the first supporting shaft engaging the bearing to smoothly rotate the drum body, and a bearing in the second sidewall of the oven compartment, the second supporting shaft engaging the bearing to smoothly rotate the drum body.

15. The bread maker according to claim 9, wherein the first supporting shaft supports the first end of the drum body, and the second supporting shaft supports the second end of the drum body.

16. The bread maker according to claim 4, wherein the drum body comprises a first accommodator having a non-circular cross-section to accommodate the first engaging shaft of the first supporter, the first engaging shaft being pressed and inserted into the first accommodator to fit into the first accommodator, thereby preventing the first supporter from freewheeling or separating from the drum body during operation of the kneading drums.

17. The bread maker according to claim 2, wherein the second supporter comprises:

a second engaging shaft, having a non-cylindrical cross-section, inserted into the second end of the drum body;

a second supporting shaft rotatably supported by the second sidewall of the oven compartment; and

a power transmission shaft projecting from the second supporting shaft toward the electrical components compartment and connecting to the drum driving part.

18. The bread maker according to claim 17, wherein the second supporter further comprises a second insertion limiting part between the second engaging shaft and the second supporting shaft, the second insertion limiting part having a diameter greater than that of the second engaging shaft and the second supporting shaft.

19. The bread maker according to claim 1, wherein the drum body comprises a holder detachably connected to the drum body to hold the end of the mixing bag, the holder comprising:

a mixing bag contacting part formed in a cylindrical surface of the drum body as a plane shape along a lengthwise direction of the drum body; and

a plurality of holding projections projecting from the mixing bag contacting part to engage and hold the end of the mixing bag, the holding projections being spaced apart from each other by a predetermined distance along the lengthwise direction of the drum body.

20. A kneading drum for kneading bread ingredients contained in a mixing bag in a bread maker having an oven compartment, the kneading drum comprising:

a drum body on which an end of the mixing bag is wound, the drum body having a non-circular cross-section;

a first supporter having a first end with a non-circular cross-section detachably engaging a first end of the drum body having a non-circular cross-section, and having a second end with a circular cross-section rotatably engaging a first sidewall of the oven compartment; and

a second supporter having a first end with a non-circular cross-section detachably engaging a second end of the drum body having a non-circular cross-section, and having a second end with a circular cross-section rotatably engaging a second sidewall of the oven compartment.

21. The kneading drum according to claim 20, wherein the first supporter comprises:

a first engaging shaft inserted into the first end of the drum body having a non-cylindrical cross-section; and

a first supporting shaft rotatably supported by the first sidewall of the oven compartment.

22. The kneading drum according to claim 21, wherein the first supporter further comprises a first insertion limiting part between the first engaging shaft and the first supporting shaft, the first insertion limiting part having a diameter greater than that of the first engaging shaft and the first supporting shaft.

23. The kneading drum according to claim 20, wherein the second supporter comprises:

a second engaging shaft inserted into the second end of the drum body having a non-cylindrical cross-section;

a second supporting shaft rotatably supported by the second sidewall of the oven compartment; and

a power transmission shaft projecting from the second supporting shaft toward the electrical components compartment and connecting to the drum driving part.

24. The kneading drum according to claim 23, wherein the second supporter further comprises a second insertion limiting part between the second engaging shaft and the second supporting shaft, the second insertion limiting part having a diameter greater than that of the second engaging shaft and the second supporting shaft.

25. A bread maker having an oven compartment, an electrical components compartment, and kneading drums spaced apart from each other inside the oven compartment to knead bread ingredients contained in a mixing bag, each kneading drum comprising:

a drum body, having a non-circular cross-section, on which an end of the mixing bag is wound, the drum body having a first accommodator and a second accommodator;

a first supporter detachably engaging a first end of the drum body and engaging a first sidewall of the oven compartment, and being rotatably supported by the first sidewall of the oven compartment, the first supporter having a first engaging shaft; and

a second supporter detachably engaging a second end of the drum body and engaging a second sidewall of the oven compartment, and being rotatably supported by the second sidewall of the oven compartment, the second supporter having a second engaging shaft,

the first engaging shaft, having a non-cylindrical cross-section, being inserted into the first end of the drum body,

the second engaging shaft, having a non-cylindrical cross-section, being inserted into the second end of the drum body,

the first accommodator having a non-circular cross-section to accommodate the first engaging shaft of the first supporter, the first engaging shaft being pressed and inserted into the first accommodator to fit into the first accommodator, thereby preventing the first supporter from freewheeling or separating from the drum body during operation of the kneading drums, and

the second accommodator having a non-circular cross-section to accommodate the second engaging shaft of the second supporter, the second engaging shaft being pressed and inserted into the second accommodator to fit into the second accommodator, thereby preventing the second supporter from freewheeling or separating from the drum body during operation of the kneading drums.